SS: 2018

JPRS: 5243

4 August 1960

DEVELOPMENT OF ELECTRIC POWER IN HONAN PROVINCE

- COMMUNIST CHINA -

By Li P'ei-t'ang

U.S. JOINT PUBLICATIONS RESEARCH SERVICE
205 EAST 42nd STREET, SUITE 300
NEW YORK 17, N. Y.

Subscribing Repositories

University of British Columbia
Vancouver 8, Canada

Center for Chinese Studies
University of California
Berkeley 4, California

University of California Library
Berkeley 4, California

University of Chicago Library
Chicago 37, Illinois

Librarian, East Asiatic Library
Columbia University
New York 27, New York

Council on Foreign Relations
58 East 68th Street
New York 21, New York

Duke University Library
Durham, North Carolina

The Fletcher School of
Law and Diplomacy
Tufts University
Medford, Massachusetts

Harvard College Library
Cambridge 38, Massachusetts

Center for East Asian Studies
Harvard University
16 Dunster Street
Cambridge 38, Massachusetts

Harvard-Yenching Institute
Cambridge 38, Massachusetts

University of Hawaii
Honolulu 14, Hawaii

The Hoover Institution
Stanford, California

University of Illinois Library
Urbana, Illinois

Indiana University Library
Bloomington, Indiana

State University of Iowa Library
Iowa City, Iowa

Institute for Asian Studies
Marquette University
Milwaukee 3, Wisconsin

University of Michigan Library
Ann Arbor, Michigan

Michigan State University Lib.
East Lansing, Michigan

University of Minnesota Library
Minneapolis 14, Minnesota

Ohio State University Libraries
1858 Neil Avenue
Columbus 10, Ohio

University of Oregon Library
Eugene, Oregon

University of Pittsburgh Lib.
Pittsburgh 13, Pennsylvania

Princeton University Library
Princeton, New Jersey

University of Rochester
Rochester 20, New York

Institute of Asian Studies
St. John's University
Graduate School
Jamaica 32, New York

McKissick Memorial Library
University of South Carolina
Columbia 1, South Carolina

University of Southern Calif.
Library
Los Angeles 7, California

University of Texas Library
Austin 12, Texas

Alderman Library
University of Virginia
Charlottesville, Virginia

Far Eastern Library
University of Washington
Seattle 5, Washington

Yale University Library
New Haven, Connecticut

JPRS: 5243

CSO: 4450-N

HOW THE MOVEMENT FOR DEVELOPING ELECTRIC POWER IS LAUNCHED BY THE PEOPLE OF HONAN PROVINCE

[The following is a full translation of an article written by Li P'ei-t'ang, head of the Electric Power Industry Bureau of Honan Province, appearing in Shui-li Yu Tien-li No 9, Peiping, 5 May 1960, pp 3-7.]

I. How the Movement Is Started and What Achievements Have Been Made

The movement for developing electric power industry in Honan Province was started in 1958 and considerable achievements have been made. To a certain extent, this movement was affected by our inertia at the beginning plus our over-emphasis on foreign methods at the expense of native methods and our ambition for big projects to the neglect of small projects.

As a result of the continuous great leap forward in 1958 and 1959, electric power generated per day now is about the same as that generated in the whole year of 1949. Although electric power industry underwent rapid development, the output is still not enough to satisfy the industrial needs in big cities. Therefore, a serious electric power shortage is now exisiting in nine big cities. For the first quarter of 1960, there was a shortage of 30,000 kilowatts. For the second quarter, the shortage is expected to be 60,000 kilowatts although different measures have been taken to increase power supply. So the situation is very serious.

Since communalization, water conservancy construction and commune-run industries have been undergoing unprecedentedly rapid development. As agriculture, animal husbandry, subsidiary production and fishery all take a leap forward, shortage of electric power and other motive power poses an imperative problem as manpower is at a premium in the countryside.

Take Lin-hsien for example. It needs 20,000 kilowatts in 1960 for its industrial plants, but only 4,000 kilowatts are available. The power supply problem was brought to the fore especially after the central authorities of the Party called for the mechanization, electrification, automation and "chemicalization" of agriculture, the

buildup of national economy with agriculture as the foundation, support of agriculture by industry and the speedy reform of agricultural technology.

In solving this problem, two approaches are used. One is to rely upon big power supply networks, rely upon big urban industrial plants or the state for the supply of power generating equipment, or to go to various places in an attempt to acquire power generating machines. The result is that big networks are not immediately available and equipment cannot be readily obtained. The other approach, as practiced in many places, is to rely upon the masses, use whatever material is available locally, and to manufacture the necessary equipment with existing facilities. As a result of the second approach, simple power generating machines are manufactured, a large number of small-scale power stations are established, a great deal of experience is acquired, and the manpower shortage problem is solved.

During November 1959, Cheng-chou municipality, for instance, was facing a critical electric power shortage. Instead of asking the state for equipment, the municipality, by establishing small-scale plants and economizing, increased its electricity output by more than 8,000 kilowatts and saved more than 1 million kilowatt hours, thus lessening the strain on manpower and assuring adequate electric power supply for industry.

As a result of the movement for developing electric power industry, electricity is now widely used by commune-run industries for processing agricultural products. The achievements are particularly remarkable in 20 hsien including Lin-hsien, Ch'ang-ko, Lu-shih, Shen-ch'iu, Hsi-sha and Hsin-cheng. This proves that to develop electric power industry by all the people is the correct approach to relieve the strain on power supply and to accelerate rural electrification.

In order to guarantee the continued agricultural and industrial leap forward in 1960, we must earnestly, intensively and thoroughly follow the Central Committee's policy of "walking on two legs;" in other words, we must, on the one hand, speed up the construction of big-scale and foreign style power stations and, on the other hand, mobilize all people of the province to generate electricity by using water, fire, wind and marshes.

In accordance with the program of rural electrification, people in Honan province earnestly summarized the advanced experience of other provinces and proposed to develop electric power under the "five principles," namely, water power should be used as the principal form of motive power; small-scale plants should be the principal form of

power stations; electricity generating facilities should be operated principally by the communes; power plants should use principally native methods; and the power generated should be used principally to serve production. After these principles were made known, an intensive and far-reaching all-people's movement for the development of electric power industry spread from urban to rural areas and from plain to mountainous areas. Through one year's struggle, great achievements have been scored.

Since 1959, Honan Province has built 16,368 electric and motive power stations with a total capacity of 243,987 kilowatts. Of these stations, 3,299 are electric power stations with a combined capacity of 85,727 kilowatts; 13,069 are motive power stations with a combined capacity of 158,261 kilowatts. During the first quarter of 1960, the province established 8,050 electric and motive power stations with a total capacity of 119,359 kilowatts which represent 95 percent of the total electric and motive power generated in the whole year of 1959.

At present, of Honan Province's 1,210 people's communes, 861, or 71 percent, already have their own electric power stations. In January 1960, everyone of the 175 people's communes in the Hsu-chang special district has an electric power station. In Hsin-hsiang special district, 258, or 90 percent, of the 286 people's communes have their own electric power stations.

If the total electric power generated in the province is converted to manpower at the rate of 10 labor units to each kilowatt, then the manpower saved throughout the province amounts to 210,000 labor units. The volume of work done by electricity is even more spectacular. For instance, the Ch'ang-ko people's commune has used electricity to produce 8.1 million catties of native fertilizer, bow 250,000 catties of cotton and water 380,000 mou of wheat. Altogether 11 communes, 79 production brigades, 18,400 households and 952 mess halls are illuminated by electric light. At the Hsia-yeh people's commune in Chi-yuan hsien, electricity is produced by ox-drawn native generators, and it is used to irrigate wheat fields in day time and illuminate homes at night. The masses are satisfied, saying: "This is a precious thing for the farmers."

In respect to equipment, the province manufactured or readjusted 1,662 units of electric generators for local use during the first quarter of 1960. Right now, the manufacturing technique is developing from making low-capacity to medium-capacity electric generators. As far as we know, 19 hsien and municipalities including Lu-i, Tang-ying,

Hsu-chang and Lin-hsien have succeeded in manufacturing 100-750 kilowatt generators. Not only hsien and commune-operated machine works but also production brigades, government agencies, schools, stores and pig farms are able to manufacture electric generators.

In respect to technology, we are able to manufacture electric machinery with galvanized steel, black sheet steel and pig iron instead of silicon steel. The types of electric machinery manufactured include synchronous and asynchronous electric generators, A.C.-D.C. electric machineries and mechanical converters. In the field of water turbine, we have succeeded in manufacturing wooden rotor turbines, steel rotor turbines, "French" turbines and impulse turbines. At the same time, we have built low head, medium head and level head hydroelectric stations.

In the field of machine-building, we are making both automatic and semi-automatic universal circular shearing machines, threading machines, yarn-wrapping machines for wire insulation, high-speed millers, filament extrution machines, punch hole machines, press and motor-driven yarn twisting machines. The Hsin-hsiang special district has recently established four power plants where electricity is produced by ox- or horse-drawn native generators.

This all-people's movement has not only raised production and saved labor but also changed the complexion of the whole rural area and encouraged the masses. For example, when the first electric generator was successfully built by the Lin-pa commune in Teng-hsien, the masses in groups of three or five went to see the new product like going to a fair. Indeed, the beautiful prospect of a fully electrified countryside has a heart-warming effect on everyone. An old man said: "The Communist Party leadership is really wise; electric illumination makes me see clearly at night. Thanks to the leadership of Chairman Mao, I am going to grow younger and younger the rest of my life."

The problem of material supply is primarily solved through mobilizing the masses, bartering and equal-value exchange. Up to now, the masses have collected and donated 260,000 catties of copper, 150,000 catties of sheet steel, 10 million catties of scrap iron, 170,000 cubic meters of timber and 54 million pieces of brick. Most outstanding in this movement is Yu-hsien where all of the 32 members of thehsien Party committee went to the countryside to explain the significance of developing electric power to the masses. Within seven days, 210,000 catties of copper were collected. Men and women, the old and the young,

husbands and wives, and fathers and sons competed with each other in donating copper.

In order to build the electric power industry, the masses at Yen-ch'eng unearthed the wreckage of a Kuomintang airplane downed ten years ago. The masses at Fu-yang hsien took down the steel roofing and replaced with tiles, while the masses at Nan-yang hsien donated 1,099 catties of silver to buy material for electric machinery. Laudable deeds take place one after another and thus lay a material basis for developing electric power in the rural area.

An army of technicians has come into being since the movement for developing electric power in the countryside got under way. According to preliminary statistics, about 50,000 persons know how to make electric machinery. Most of them are silversmiths, blacksmiths, carpenters and stone masons who have learned the new skill through short training courses, on-the-spot conferences, from their masters and friends, and through using actual engineering projects as their textbooks and factories as their classrooms.

Many hsien-operated schools for technicians are being established. Lin-hsien, for instance, has relied upon its own efforts to build a self-supporting technological school in which class instruction is combined with labor production. In other places, a large number of technicians are trained with the help of mobile technical assistance brigades and technology dissemination corps. The growth of technical manpower has solved many problems in connection with the manufacture, installation, maintenance, operation and inspection of electric machineries.

The all-people's movement for developing electric power has now become a well-organized, well-led, big-scale, momentous and all-out mass movement.

II. Several Points of Understanding About the Movement

(1) Under the correct leadership of the Central Committee and the Provincial Committee of the Party, secretaries of local Party committees at different levels take personal command in conducting the movement.

The Provincial Committee not only gives specific directions as to the steps to take in this movement, but also disseminates technical information to hsien and municipalities. For instance, the Provincial Committee recently called a meeting attended by Party cadres at five different levels and summarized the experience in developing electric power.

The area committee of the Party takes even more specific measures to develop electric power. For instance, Comrade Ch'en Ying, secretary of the Party committee at Hsu-chang municipality, and the head of the organization department of the committee personally went down to metal works to help make accessories for electric machinery. As a result, a 4.5-kilowatt power plant was established within a short time. Chang Ch'ao, secretary of the Hsin-hsiang area committee of the Party, took the lead in building two 48-kilowatt power stations which were completed in a few days. The secretary of the Party committee at Hsi-sha hsien in Nan-yang special district personally designed mobile power stations. According to statistics for T'ang-ho and Hsi-sha hsien in Nan-yang special district, 27 secretaries of hsien and commune Party committees and 150 committee members were engaged in developing electric power. There are now directing agencies for developing electric power at all levels, and special persons are designated by communes and production brigades to be responsible for electric power development.

(2) We have found that to liberate thinking, to eliminate superstition and to wipe out all ideological obstacles by constantly criticizing rightist complacency sentiments are keys to expanding the all-people's movement of developing electric power.

Experience shows that in the course of this all-people's movement, there has been a struggle between two ideologies and two approaches. Only through the strengthening of Party leadership, insisting on letting politics take command, and criticizing all shades of rightist conservative thinking can we guarantee the healthy development of this movement and assure the leap forward of electric power industry.

At Hsin-cheng hsien, for instance, the masses were mobilized to hold a hsien-wide bloom-and-contend debate on "Whether can we succeed in manufacturing electric machinery, and expanding the all-people's movement for developing electric power? Is it necessary for us to walk on two legs?" The hsien Party committeemen at Hsin-tien commune commune had used experiments, debates and vivid facts to convince the masses and criticize the rightist conservative thinking until the first electric generator was successfully built and put into operation. Only then did the rightist conservatives admit their mistakes.

(3) We must thoroughly implement the "five principles," rely upon the masses, make adequate adjustments suited to local conditions, make improvisations with limited facilities, regenerate ourselves with our own efforts, grasp

technical skill with dexterity and solve the three key problems concerning raw material, technology and equipment.

Paving the way for rural electrification, the "five principles" have the following merits which have already been borne out by practice.

a. The "five principles" can bring the wisdom and positivism on the part of the masses into full play. For instance, Comrade Chao Fu-t'ang of Hsin-tien hsiang at Hsin-cheng hsien, who used to work for landlords in the old society and knew nothing about technology, has now become an expert in electric power through hard study.

b. Since the "five principles" regard water power as the principal source of power for generating electricity, we can very well build a large number of hydroelectric plants because there are abundant water resources in our province.

c. Since the "five principles" regard native method as the principal method for power production, large quantities of steel material can be saved and capital outlay can be reduced to the minimum and yet with quick results.

d. The "five principles," if adequately carried out, can promote the development of commune-run industries and consolidate the people's communes.

e. The "five principles" discard superstitions, liberate people's thinking and strengthen the Party and the people.

f. The "five principles" tell people to make the best use of water, fire, wind and marshes. In praising the "five principles," people are saying: "Riding on a well-groomed horse and riding on the East wind, the movement for developing electric power is blooming like a red flower. The 'five principles,' which combine indigenous with foreign methods, can generate an unlimited amount of power."

Under the general direction of the "five principles," the concrete methods for solving the three key problems in regard to material, technology and equipment may be stated as follows:

First, in solving the problem concerning material supply, we generally use the eight-word approach, namely, "creation, donation, substitution, cooperation, digging, collection, clearance and economy." Actual practice has shown that these eight words represent the mass line whereby people's positivism can be aroused. "Creation" means the creation of raw materials by our own efforts, such as making copper by native smelting methods or by electrolysis. "Donation" means to mobilize the masses to donate materials to the province. "Substitution" means to use used material

instead of new material, to build small plants instead of big ones, to use iron instead of steel, to use timber instead of iron, to use tin-plated steel instead of black steel, and to use sheet steel instead of laminated silicon steel. "Cooperation" means to promote the tradition of Communist cooperation; in other words, the communes should freely exchange goods between themselves on an equal-value basis. "Digging" means to mobilize the masses to dig all latent potentials. "Collection" means to collect all junks and remnant materials. "Clearance" means the clearance of warehouses and to use raw materials in a rational way. "Economy" means to economize the use of raw material.

Second, in solving the problem concerning technology, we use the eight approaches of "training, detailing, invitation, visit, demonstration, study, research and experiment." "Training" means to start short-course training classes, whereby prospective technicians are organized to study practical methods, to hold discussions, to tour manufacturing plants, to learn advanced experiences, and to solve problems as soon as they arise. As a result, the trainees not only know the principles of electric machinery, but also can manufacture. Learned and skillful as they become, they are able to build hydroelectric as well as thermal-electric power stations. "Detailing" means to detail technicians to other provinces to study. "Invitation" means to invite experienced knowhow to give lectures. "Visit" means to pay visits to manufacturing units. "Demonstration" means to hold technical demonstrations. "Study" means to strengthen technological study by establishing technological committees in factories and people's communes. "Research" means to learn technology studiously by one's own effort. "Experiment" means to conduct practical experiments.

Third, the methods generally used for solving problems concerning equipment are: "creation, imitation, adjustment, lending and borrowing, substitution, repairing, purchasing and transfer." "Creation" means to manufacture all kinds of special tools. "Imitation" means to copy the advanced tools manufactured in other provinces. "Adjustment" means to alter machinery manufactured in other places to suit local use. "Substitution" means to use substitutes in order to solve the problem of equipment shortage. "Lending and borrowing" means to lend and borrow equipment freely among the people's communes in the spirit of Communist cooperation. "Repairing" means to restore old machinery to workable condition. "Purchasing" means to buy new equipment. "Transfer" means that all equipment is subject to transfer on orders from higher authorities.

Because of our apt application of these methods, we have solved the three key problems concerning material, technology and equipment.

(4) To plant red flags, elect vanguards, launch emulation contests and tour manufacturing plants are good methods for developing electric power industry. For example, after the first electric generator was built by the Hsin-tien commune, a series of on-the-spot confereces, emulation contests and promotion campaigns were immediately held in communes, hsien and municipalities.

(5) In respect to the method of leadership, we have used both mass shock brigades and technicians corps. According to the experiment at Hsi-sha hsien, it takes about 200-300 labor units to build a 10-kilowatt hydroelectric power station. The plant building was constructed by two masons and five ordinary workers, and completed in three days. The most time-consuming part of the project was the building of dams and transportation of construction material. In the face of this situation, both mass shock brigades and technicians corps were employed.

In utilizing water energy, Hsi-sha hsien made multiple use of waterways and power stations. Wherever there is a drop in water level, a power plant is set up. Where there is no drop in water level, a man-made drop is created. As a result, a string of power plants are erected along the streams. Making the best use of every drop of water and every inch of water level difference, all streams and waterways are used for generating electricity and irrigation. When rainfall is abundant, water is channeled from reservoirs to ponds. In time of drought, water in reservoirs is used to generate electricity and irrigate the field so that not a single drop of water is wasted.

(6) In conducting this all-people's movement and bring it to a hightide, we must pay close attention to ideological and leadership work. First of all, there should be an effective organization with directing agencies at different levels and special responsible personnel in communes and production brigades. At regular intervals, reports should be made by lower organizations to higher organizations so that the latter may be fully informed of the operating conditions in various localities.

Next, special production campaigns should be launched on such occasions as the New Year's Day, Spring Festival and May Day with a view to bringing the movement to a hightide. Exemplary deeds should be singled out immediately and made known; on-the-spot conference should be held in time; and telephone conferences should be held at definite time intervals (generally once a month). Colorful propaganda

on the significance of developing electric power should be launched during holidays like the Spring Festival. Meanwhile, we must do a good job of encouraging the advanced elements to aid the backward elements so that the movement may surge to a new high.

(7) In developing electric power for urban areas, we have adopted the method of "economizing power consumption, developing electric power by all the people, adjusting load and increasing power output." Take Cheng-chou municipality for example. Last year, the municipality eliminated 17,000 electric lights and changed more than 20,000 bulbs to smaller wattage. Power consumption per bale of yarn was reduced from 252.12 to 232.9 kilowatt-hours. The daily load for power plants was raised from 91 percent to 95.7 percent. Great achievements were also made in exploiting the potentials of existing facilities and in manufacturing equipment by native methods.

According to the 1960 program, we plan to build more power plants with a total additional capacity from 200,000 to 300,000 kilowatts, and to achieve the goal of "a power station for each commune and each production brigade." Electric power should be made available to suburban areas, vital hsien- or commune-run industrial establishments and plants for processing agricultural products. Commune offices, public places and some of the commune members' homes should be illuminated by electric light at night.

In order to surpass this year's plan for developing electric power, our slogan is: "Let politics take command; mobilize all the people to generate electricity from water, fire, wind and marshes; and strive for the early realization of electrification."

END